

From the INTERNATIONAL BUREAU

**PCT**

NOTIFICATION OF TRANSMITTAL  
OF COPIES OF TRANSLATION  
OF THE INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY  
(CHAPTER I OR CHAPTER II  
OF THE PATENT COOPERATION TREATY)  
(PCT Rules 44bis.3(c) and 72.2)

To:

OHSHIMA, Masataka  
OHSHIMA PATENT OFFICE  
Fukuya Bldg.  
3, Yotsuya 4-chome  
Shinjuku-ku, TOKYO 160-0004  
JAPON



Date of mailing (day/month/year) 03 August 2006 (03.08.2006)	
Applicant's or agent's file reference G23KYOKA	<b>IMPORTANT NOTIFICATION</b>
International application No. PCT/JP2004/017120	International filing date (day/month/year) 11 November 2004 (11.11.2004)
Applicant KYOWA CHEMICAL INDUSTRY CO., LTD. et al	

**1. Transmittal of the translation to the applicant.**

The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

**2. Transmittal of the copy of the translation to the designated or elected Offices.**

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

None

The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EG, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

**3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).**

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

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# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference <b>G23KYOKA</b>	<b>FOR FURTHER ACTION</b>	See item 4 below
International application No. <b>PCT/JP2004/017120</b>	International filing date ( <i>day/month/year</i> ) <b>11 November 2004 (11.11.2004)</b>	Priority date ( <i>day/month/year</i> ) <b>13 November 2003 (13.11.2003)</b>
International Patent Classification (8th edition unless older edition indicated) <b>See relevant information in Form PCT/ISA/237</b>		
Applicant <b>KYOWA CHEMICAL INDUSTRY CO., LTD.</b>		

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).

2. This REPORT consists of a total of 7 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- |                                     |              |   |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the report   |
| <input type="checkbox"/>            | Box No. II   | Priority  |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention  |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input checked="" type="checkbox"/> | Box No. VI   | Certain documents cited   |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application  |
| <input checked="" type="checkbox"/> | Box No. VIII | Certain observations on the international application   |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Date of issuance of this report <b>24 July 2006 (24.07.2006)</b>
Facsimile No. +41 22 338 82 70	Authorized officer  <div style="text-align: center; font-weight: bold; font-size: 1.2em;">Yoshiko Kuwahara</div> e-mail: pt07@wipo.int

# PATENT COOPERATION TREATY

TRANSLATION

From the  
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing  
(day/month/year)

Applicant's or agent's file reference

**G23KYOKA**

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.

**PCT/JP2004/017120**

International filing date (day/month/year)

**11.11.2004**

Priority date (day/month/year)

**13.11.2003**

International Patent Classification (IPC) or both national classification and IPC

Applicant

**KYOWA CHEMICAL INDUSTRY CO., LTD.**

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP

Authorized officer

Facsimile No.

Telephone No.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/017120

Box No. I      Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language  
\_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/JP2004/017120

Box No. V

Reasoned statement under Rule 43bis 1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	11-27	YES
	Claims	1-10	NO
Inventive step (IS)	Claims		YES
	Claims	1-27	NO
Industrial applicability (IA)	Claims	1-27	YES
	Claims		NO

2. Citations and explanations:

Document 1: JP, 57-106521, A (Yabashi Industries Co., Ltd.), 2 July, 1982 (02.07.82)  
Document 2: JP, 9-278435, A (Ryoko Lime Industry Co., Ltd.), 28 October, 1997 (28.10.97)  
Document 3: JP, 9-110423, A (Ryoko Lime Industry Co., Ltd.), 28 April, 1997 (28.04.97)  
Document 4: JP, 60-86066, A (Okutama Kogyo Co., Ltd.), 15 May, 1985 (15.05.85)  
Document 5: JP, 50-102620, A (Nihon Cement Co., Ltd.), 14 August, 1975 (14.08.75)  
Document 6: JP, 10-167775, A (Maruai Sekkai Kogyo Kabushiki Kaisha), 23 June, 1998 (23.06.98)  
Document 7: JP, 2003-138149, A (Kabushiki Kaisha Kaisui Kagaku Kenkyusho), 14 May, 2003 (14.05.03)  
Document 8: JP, 2003-327427, A (Kyowa Chemical Industry Co., Ltd.), 19 November, 2003 (19.11.03)

1. The subject matters of claims 1-10 do not appear to be novel in view of documents 1-6 described in the ISR. Documents 1-6 describe calcium hydroxide obtained by slaking quicklime in the presence of an additive (the claims, example 4, and Table 4 in document 1; the claims, paragraph [0046], and examples 1, 2, 7 and 8 in document 2; the claims, and examples 1, 4, 6, 10 and 11 in document 3; the claims, lines 12-18 in upper right column of page 2, and examples 3 and 6 in document 4; the claims, and examples 1-5 in document 5; and claim 6 and paragraph [0031] in document 6). On the other hand, documents 1-6 do not clearly state formula (1) described in claim 1. However, in view of the descriptions of a slaking method and of an additive described, respectively, in lines 17-27 of page 5 and in lines 18-22 of page 6 in the specification of the present application, as one of the production methods according to the invention of the present application, it is considered that, in documents 1-6, calcium hydroxide similar to that of the present application is produced. Furthermore, documents 2, 3 and 6, and documents 4 and 6 respectively describe a specific surface area and a particle diameter of calcium hydroxide, both of which are considered to be equal to those described in claims 9 and 10. (Meanwhile, document 1 shows not only an anion derived from a phosphoric salt, a silicate, a sulfuric acid, and a citric salt but also a case with an anion derived from an aluminum salt (aluminum sulfate, etc.). Furthermore, in document 4, when a strong acid metal salt (CaCl<sub>2</sub>, etc.) is added, an ion such as Cl<sup>-</sup> similar to an anion derived from a strong acid is considered to be contained.)

2. The subject matters of claims 11-27 do not appear to involve an inventive step in view of documents 1-7 described in the ISR.

As described in document 7, using calcium hydroxide as a resin additive is conventional, and when a resin additive is produced with calcium hydroxide, a surface treatment thereof with a fatty acid and the like is generally carried out. Furthermore, document 7 describes that (1) calcium hydroxide, in which the specific surface area is large and secondary particle is small, is suitable as a stabilizer for a halogen-containing resin, and (2) when calcium hydroxide is used as such a stabilizer, hydrotalcite is also added at the same time (paragraphs [0008]-[0025] in document 7). So, a person

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

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Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

skilled in the art could have easily conceived of the subject matters of claims 11-27 based on the descriptions in documents 1-7.

3. The document which is a basis for the priority claim of the present application does not describe a resin composition containing hydrotalcite, so claims 19-23 and 25-27 are determined on the basis of the international filing date.

The subject matters of claims 19-23 and 25-27 do not appear to involve an inventive step in view of documents 7 and 8 described in the ISR.

Document 8 describes that calcium hydroxide is used as a halogen scavenger, and, in view of description of lines 17-27 of page 5 in the specification of the present application, the calcium hydroxide described in document 8 is considered to have the composition of formula (1). On the other hand, document 7 describes that, when calcium hydroxide is used as a stabilizer for a halogen-containing resin (a halogen scavenger), hydrotalcite is also used at the same time, 0-2% by weight of which is added. Further, the ratio of calcium hydroxide to hydrotalcite in example 7 is 7:3.

Therefore, when the calcium hydroxide described in document 8 is added to a resin as a halogen scavenger, a person skilled in the art could have easily conceived of adding as much hydrotalcite as that described in document 7 at the same time. With regard to remaining matters, nothing special can be found with respect to documents 7 and 8, and general matters in the art.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

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Box No. VI

Certain documents cited

1. Certain published documents (Rule 43bis.1 and 70.10)

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
JP 2003-327427 A [EX]	19.11.2003	13.05.2002	
JP 2004-161513 A [EX]	10.06.2004	11.11.2002	

2. Non-written disclosures (Rule 43bis.1 and 70.9)

Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)
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WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/017120

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

With regard to calcium hydroxide in examples 1-20, measurement of X-ray diffraction, BET specific surface area, and average secondary particle diameter is described, and with regard to X-ray diffraction, it is described that the "obtained powder X-ray diffraction pattern is only that of calcium hydroxide, therefore calcium hydroxide, in which silicon dioxide is solid-solved, is found to be produced (examples 1-3)." and the like. Furthermore, Table 1 describes  $A^{n-}$  and x, showing that the above-described calcium hydroxide contains a specific amount of  $A^{n-}$  ions. However, the result of X-ray diffraction just shows that only calcium hydroxide is formed, so the cause of the result in Table 1, in which the calcium hydroxide contains a specific amount of  $A^{n-}$  ions, is not known. (Meanwhile, with regard to examples 21-30, analysis of  $SiO_2$ ,  $Al_2O_3$ , a metal, and the like is described, but analysis of an anion of the kind described in examples 5-20 is not described.)

Therefore, the specification does not sufficiently support that the calcium hydroxide shown by formula (1) of claim 1 is obtained.